

IN THE CLAIMS:

1. (Currently Amended) ~~An apparatus~~ Apparatus for non-destructive hyperthermia therapies, ~~characterized in that it comprises the apparatus comprising:~~

_____ generating means for generating radio-frequency electromagnetic radiation[[s]], connectable to application means for the application of said radiation[[s]] to a skin portion of a the human body, said application means comprising an active electrode and a reference electrode, said active electrode being provided with a sensor means for the detection of skin temperature of the skin portion, said sensor means including at least a sensor incorporated in said active electrode.

2 – 3 (Canceled)

4. (Currently Amended) ~~An apparatus~~ Apparatus according to claim [[2]] 1, ~~characterized in that the~~ wherein said sensor means for the detection of the skin's temperature ~~are made up of at least comprises~~ a sensor which can be connected to the apparatus and [[.]] removably associated with the active electrode ~~in correspondence of a relevant seat thereof ,~~ said active electrode having a seat complementarily matching a corresponding connector of the sensor.

5. (Currently Amended) ~~An apparatus~~ Apparatus according to claim [[2]] 1, ~~characterized in that the~~ wherein said sensor means for the detection of the skin's temperature are connected to a control circuit connectable to and acting on said generating means for

generating[[']] radio-frequency radiation[[s]].

6. (Currently Amended) An apparatus ~~Apparatus~~ according to claim [[2]] 1, ~~characterized in that the~~ wherein said electrodes consist of conductive plates or membranes.

7. (Currently Amended) An apparatus ~~Apparatus~~ according to claim [[2]] 1, ~~characterized in that the~~ wherein structure of the active electrode is complementary shaped with respect to ~~the body's~~ the skin portion of the human body region of the patient to be treated.

8. (Currently Amended) An apparatus ~~Apparatus~~ according to claim [[2]] 1, ~~characterized in that the~~ wherein said reference electrode has dimensions larger than those of the active electrode.

9. (Currently Amended) An apparatus ~~Apparatus~~ according to claim [[2]] 1, ~~characterized in that it comprises more~~ further comprising additional active electrodes connected to a switch device able to connect in sequence said active electrodes to said generating means for generating radio-frequency radiation[[s]].

10. (Currently Amended) An apparatus ~~Apparatus~~ according to claim 1, ~~characterized in that it comprises~~ further comprising means for adjusting the temperature reached on the skin and able to vary the and the output power in order to keep ~~the skin's~~ skin temperature at a preset value.

11. (Currently Amended) ~~An apparatus~~ Apparatus according to claim 1, ~~characterized in that wherein it comprises~~ further comprising measuring means for measuring the output power and the impedance in correspondence of the application means.

12. (Currently Amended) ~~An apparatus~~ Apparatus according to claim 1, ~~characterized in that wherein it comprises~~ further comprising means to preset the duration of the treatment.

13. (Currently Amended) ~~An apparatus~~ Apparatus according to claim 1, ~~characterized in that~~ further comprising means for connection with an electronic processor.

14. (New) An apparatus for non-destructive hyperthermia therapies, the apparatus comprising:

generating means for generating radio-frequency electromagnetic radiation; and

application means connected to said generating means for the application of said radiation to a skin portion of a human body, said application means comprising an active electrode and a reference electrode, said active electrode being provided with a skin temperature sensor means for the detection of skin temperature of the skin portion, said sensor means including at least a sensor part directly incorporated in or directly connected to said active electrode.